

1 399 649

- (21) Application No. 58802/72 (22) Filed 20 Dec. 1972 (19)  
 (44) Complete Specification published 2 July 1975  
 (51) INT. CL.<sup>2</sup> D06H 7/00  
 (52) Index at acceptance  
 DIS 25  
 (72) Inventor ROLF BLEIMUND



(54) APPARATUS FOR DRAWING OFF AND SEVERING INDIVIDUAL LENGTHS OF FABRIC FROM ROLLS OF FABRIC

- (71) We, HERBERT KANNEGIESSER KOMMANDITGESELLSCHAFT, a German Company, of 4973 Vlotho/Weser, Hollwiesen, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—
- This invention relates to an apparatus for drawing off and severing individual lengths of fabric from rolls of fabric and for laying the individual lengths one on top of another with their edges aligned. Such an apparatus is also known as a fabric laying machine.
- There is a need, in certain fields of manufacture, for fabric laying machines in which small batches of individual lengths can be drawn off and severed from various rolls of fabric. Such a need arises, for example
- lengths one on top of the other with their edges aligned, the apparatus comprising an elongate supporting plate, a carriage which can be reciprocated in the longitudinal direction of the supporting plate, a magazine disposed at one end of said supporting plate and mounted on a frame displaceable in a direction parallel with the plane of said supporting plate and perpendicular to said longitudinal direction, said magazine being adapted to support rotatably a plurality of rolls of fabric with their axes extending parallel with the direction in which said frame is displaceable, said carriage being adapted to draw off, from a roll of fabric supported by the magazine, a required length to be severed from the roll, the apparatus including a transverse cutting device, for severing such a length of fabric.

## SPECIFICATION NO 1399649

By a direction given under Section 17 (1) of the Patents Act 1949 this application proceeded in the name of MARTIN KANNEGIESSER, of German Nationality, of D4902 Bad Salzflen, Im Salztal 5, Federal Republic of Germany.

THE PATENT OFFICE

R 23935/10

- before another roll is begun. Other known fabric laying machines which permit changing from one roll of fabric to another with less difficulty are complex in construction and expensive.
- It is an object of the invention to provide an improved apparatus for drawing off and severing individual lengths of fabric from rolls of fabric and for laying the individual lengths one on top of the other with their edges aligned, which apparatus is simple in construction and yet permits rapid interchange of fabric rolls.
- According to the invention there is provided an apparatus for drawing off and severing individual lengths of fabric from rolls of fabric, and for laying the individual
- with the end of the supporting plate to minimise said movement.
- The apparatus according to the invention enables individual lengths to be drawn off rapidly in desired lengths from a number of fabric rolls of different design and the individual lengths to be severed from these roll or rolls and laid on top of one another with their edges aligned, such alignment being necessary to achieve low cutting losses when a batch of superimposed individual pieces is cut to shape by machine.
- Preferably the apparatus includes a hold-down member, operable to hold down on the supporting plate the ends, nearer the magazine, of lengths of fabric which have been drawn off by the carriage from a roll

SPECIFICATION AMENDED - SEE ATTACHED SLIP

BEST AVAILABLE COPY

1 399 649

(21) Application No. 58802/72 (22) Filed 20 Dec. 1972 (19)

(44) Complete Specification published 2 July 1975

(51) INT. CL.<sup>2</sup> D06H 7/00(52) Index at acceptance  
DIS 25

(72) Inventor ROLF BLEIMUND



(54) APPARATUS FOR DRAWING OFF AND SEVERING INDIVIDUAL  
LENGTHS OF FABRIC FROM ROLLS OF FABRIC

- (71) We, HERBERT KANNEGIESER  
KOMMANDITGESELLSCHAFT, a German Com-  
pany, of 4973 Vlotho/Weser, Hollwiesen,  
Germany, do hereby declare the invention,  
5 for which we pray that a patent may be  
granted to us, and the method by which it  
is to be performed, to be particularly des-  
cribed in and by the following statement:—  
10 This invention relates to an apparatus for  
drawing off and severing individual lengths  
of fabric from rolls of fabric and for laying  
the individual lengths one on top of another  
with their edges aligned. Such an appara-  
tus is also known as a fabric laying machine.  
15 There is a need, in certain fields of manu-  
facture, for fabric laying machines in which  
small batches of individual lengths can be  
drawn off and severed from various rolls  
of fabric. Such a need arises, for example  
20 in clothing factories making shirts and  
underwear, where the demands of fashion  
are such that everyday a fairly large num-  
ber of small stacks of individual pieces of  
various different design must be produced.  
25 Some known fabric laying machines are of  
such a construction that the time and labour  
required for changing from one roll of  
fabric to another is so great that these  
machines can only be used economically if  
30 entire rolls of fabric are to be divided into  
individual lengths, each roll being finished  
before another roll is begun. Other known  
fabric laying machines which permit chang-  
ing from one roll of fabric to another with  
35 less difficulty are complex in construction  
and expensive.  
It is an object of the invention to pro-  
vide an improved apparatus for drawing off  
and severing individual lengths of fabric  
40 from rolls of fabric and for laying the in-  
dividual lengths one on top of the other  
with their edges aligned, which apparatus  
is simple in construction and yet permits  
rapid interchange of fabric rolls.  
45 According to the invention there is pro-  
vided an apparatus for drawing off and  
severing individual lengths of fabric from  
rolls of fabric, and for laying the individual  
lengths one on top of the other with their  
edges aligned, the apparatus comprising an  
elongate supporting plate, a carriage which  
can be reciprocated in the longitudinal direc-  
tion of the supporting plate, a magazine  
disposed at one end of said supporting plate  
and mounted on a frame displaceable in a  
50 direction parallel with the plane of said  
supporting plate and perpendicular to said  
longitudinal direction, said magazine being  
adapted to support rotatably a plurality of  
rolls of fabric with their axes extending  
60 parallel with the direction in which said  
frame is displaceable, said carriage being  
adapted to draw off, from a roll of fabric  
supported by the magazine, a required length  
to be severed from the roll, the apparatus  
65 including a transverse cutting device, for  
severing such a length of fabric from such  
a roll, which cutting device can reciprocate  
transversely, of the direction of movement  
of the carriage, and a control device which  
70 ensures that the longitudinal edges of the  
webs drawn off by the carriage from fabric  
rolls supported by the magazine run  
straight in the longitudinal direction of the  
supporting plate by sensing movement of  
75 the longitudinal edges of the web transverse  
to the supporting plate and displacing the  
magazine and said frame in a direction  
opposite to such movement and parallel  
80 with the end of the supporting plate to mini-  
mise said movement.  
The apparatus according to the invention  
enables individual lengths to be drawn off  
rapidly in desired lengths from a number  
85 of fabric rolls of different design and the  
individual lengths to be severed from these  
roll or rolls and laid on top of one another  
with their edges aligned, such alignment be-  
ing necessary to achieve low cutting losses  
90 when a batch of superimposed individual  
pieces is cut to shape by machine.  
Preferably the apparatus includes a hold-  
down member, operable to hold down on  
the supporting plate the ends, nearer the  
magazine, of lengths of fabric which have  
95 been drawn off by the carriage from a roll

SPECIFICATION AMENDED - SEE ATTACHED SUP

of fabric supported by the magazine and severed by said transverse cutting device.

5 Preferably the apparatus also includes a transfer device, adapted to support the leading end of a length of fabric extending from a roll of fabric supported by said magazine, in a position in which said carriage can engage said leading end prior to drawing off a length of fabric from the last-men-

10 tioned roll.  
An embodiment of the invention is described below with reference to the accompanying drawings in which:—

15 Figure 1 is a side elevation of the apparatus according to the invention;

Figure 2 is a plan view of the apparatus illustrated in Figure 1;

20 Figure 3 is a cross-section through the apparatus, taken along the line I—I in Figure 1;

Figure 4 shows part of Figure 1 with superimposed individual fabric lengths on the supporting plate, the hold-down element in the retaining position and the transverse cutting device in the cutting position;

25 Figure 5 is a side elevation corresponding to Figure 4, but showing the cutting operation terminated, with the hold-down member raised to lay the end zone of a severed individual length of fabric on the supporting plate and the webs already lying thereon;

30 Figure 6 is a side elevation corresponding to Figure 4, but showing a pivoting flap, forming the transfer device, raised to transfer a fresh individual length of fabric to the carriage;

35 Figure 7 is a front view on an enlarged scale, of a control device for ensuring that the longitudinal edges of the fabric drawn off from a roll run straight;

Figure 8 is a section on an enlarged scale through the pivoting flap and

40 Figure 9 is a section on an enlarged scale through the bearing zone of a fabric roll shaft in a bearing disc of the magazine.

45 The apparatus according to the invention illustrated in the drawings for drawing off and severing individual lengths 10 from fabric rolls 11 and laying them one on the other with their edges aligned has a supporting plate 12 for the individual lengths 10.

50 A carriage 15 which draws the fabric lengths 10 to be severed from the fabric roll 11 is mounted to be reciprocated manually or mechanically on guide rails 14 disposed along the supporting plate 12.

55 The carriage 15 has roller 29 having guide grooves which engage around the guide rails 14.

60 The longitudinal edges of the supporting plate 12 can also be used as guides for the carriage 15.

65 Disposed adjacent one end of the sup-

porting plate 12 is a transverse cutting device 16 which is reciprocated transversely of the direction of movement of the carriage 15, and in dependence thereon, to sever from the fabric roll 11 the length 10 drawn thereoff. 70

Also disposed adjacent said one end of the supporting plate 12 are a hold-down member 17 which can move vertically with the transverse cutting device 16 and retains (clamps on one side) the severed lengths of fabric lying on the supporting plate 12 at their ends 10a nearer the fabric rolls, and a transfer device 71 for transferring to the carriage 15 the face end 10b of a length of fabric extending from a fabric roll. 75

A number of grippers 19 attached to the carriage 15 seize above the cutting plane the leading edge 10b of a fabric length 10 retained by the transfer device 71 and retain such edge during the movement of the carriage—i.e., while the fabric length 10 is being drawn off from the fabric roll 11. 80

85 Disposed adjacent the end of the supporting plate 12 nearest the transverse cutting device is a magazine 20 which pivotably and interchangeably receives a number of fabric rolls 11 and can be reciprocated transversely of the direction of movement of the carriage 15 under the control of a control device 21 to make the lateral edges of the fabric lengths 10 run straight when they are drawn off the fabric rolls 11. In operation the control device 21 senses the position of the longitudinal edge of a length of fabric extending from a roll supported by the magazine 20 to the transfer device 71. 90

95 Electrical control devices, for instance, the control device 21 and switches 22—28 controlling the movements of the individual devices or members 15, 16, 17, 71, 20 are disposed on at least one part of the aforementioned devices 12—15, 71. 100

105 Adjacent one of the guide rails 14, and at a distance from the cutting line 30 (Figure 2) of the transverse cutting device 16, there is disposed on the supporting plate 12 a stop 31 which can be displaced in the longitudinal direction of the plate and fixed in any desired position. The stop 31 is arranged to co-operate with a switch 22, for instance, a pressure switch, disposed on the carriage 15, the switch 22 controlling the traversing movement of the transverse cutting device so that when the switch 22 abuts the stop 31 the transverse cutting device 16 is displaced along the cutting line 30. 110

115 The length of the individual severed lengths 10 is determined by the longitudinal position of the stop 31, and can be set to a desired value by adjusting the stop 31 in the longitudinal direction of the supporting plate 12. 120

125 Below one of the guide rails 14, at a position which adjoins the cutting line 30 130



there is disposed a switch 23, for instance, a pressure switch, which is attached to the bearing plate 12 and can be actuated by a movable part 32 of the last mentioned guide rail 14. The switch 23 controls the movement of the transfer device 71 and when the switch 23 is actuated by the carriage 15 running onto the part 32 and thereby depressing the latter, the transfer device 71 is moved into a position favourable for the seizing of the leading edge 10b by the grippers 19.

The transverse cutting device 16 provided is an electric gear motor 16a having a rotating cutting disc 16b disposed on an output shaft of the motor which extends longitudinally of the supporting plate 12. The gear motor 16a is mounted for displacement on the hold-down member 17 in a cutting groove 17a of preferably T-shaped cross-section which also forms the cutting line 30, the gear motor 16a being reciprocated rectilinearly via a belt drive 34, or chain drive or some other means by a drive device 35, for instance, an electric motor with gearing, disposed beneath the supporting plate 12.

Mounted on a supporting frame part 40 fixed to the supporting plate 12 are two switches 24, 25, which are positioned in the path followed by the cutting device 16 during cutting movement thereof, so as to be operated by the device 16 at the end of its cutting movement. The two switches 24, 25, which are, for instance, pressure switches, are disposed one after the other in the direction of cutting movement of the transverse cutting device 16, the switch 24 which is further forward in the cutting direction producing the return movement of the transverse cutting device 16 and the second switch 25, actuated by the return movement of the transverse cutting device 16, initiating a lifting movement of the hold-down member 17 together with the transverse cutting device 16. The lifting movement of the hold-down member 17 enables the cut end 10a of the fabric length 10 just severed to drop off the hold-down member 17 on to previously severed lengths 10 or on to the supporting plate 12, so that such edge can be clamped between the supporting plate 12 and the hold-down member 17 when the hold-down member 17 makes its downward movement.

The hold-down member 17 is guided with provision for vertical adjustment on the supporting plate 12 by the agency of lateral vertical guides 36, for instance, guide rods, in (between) guides 37, for instance, guide rollers, rotatably mounted in the supporting frame part 40 and can be moved upwards and downwards by a lifting device 38, for instance, one or more pressure cylinders, controlled by the switch 25. The switch

25 is connected via electric cables to a control apparatus for the lifting device 38.

Guide rods 36 disposed on both longitudinal sides of the supporting plate 12 co-operate with the hold-down member 17 and a crossbeam 39 disposed beneath the supporting plate 12 to form a vertically adjustable frame. There is mounted on the crossbeam 39 of the frame the drive device 35 for reciprocating the transverse cutting device 16, so that the latter also shares in the lifting movement. The tensioning of the belt drive 34 can be adjusted by a tensioning roller. Attached to the vertical guides 36 is a vertically adjustable stop 41 co-operating with a switch 27, for instance, a pressure switch, disposed on the underframe 13. When actuated by the stop 41, the switch 27 limits the lifting movement of the hold-down member 17, interrupting or changing over such movement. The stop 41 enables the lifting movement to be varied over a certain range and therefore adjusted to the thickness of the stack of severed lengths 10.

In a preferred embodiment of the invention the transfer device 71 is formed by a pivotable flap 18 which can be pivoted around an axis 42 disposed parallel with the cutting line 30 and can be pivoted upwards and downwards via the agency of a lifting device 33, for instance, a pressure cylinder, controlled by the movable rail part 32 or the switch 23. The length of the pivotable flap 18 extending from the axis 42 to the cutting line 30 is so larger that it partly overlaps the hold-down member, but terminates before the cutting groove 17a. The pivotable flap 18 bears against the hold-down member 17, so that when the latter makes its lifting movement the pivotable flap 18 is entrained upwards and is also lowered when the member 17 is lowered again; however, the pivotable flap 18 can also be vertically adjusted by its lifting device 33, independently of the lifting movement of the hold-down member 17.

Disposed adjacent the free end of the pivotable flap 18 adjacent the cutting line 30 is a gripping layer 43 on which a securing rod 45 covering the whole flap width bears. The securing rod 45 is mounted to move in a guide groove 44 in each of bearing parts 18a which can be lifted off the pivotable flap 18. The two guide grooves 44 have a downwardly inclined position in the direction of the free pivotable flap end and the direction of the cutting line 30, so that the securing rod 45 always drops by its own weight into the bottom guide groove. The web 10 is drawn through between the gripping layer 43 and the securing rod 45. Since the securing rod 45 always forces the web 10 against the gripping layer 43, the

free end with the leading edge 10b of the fabric roll 11 cannot slip back in the direction of the magazine 20 when cutting has been performed. The free end of the fabric on roll 11 extends beyond the pivotable flap 18 by a distance required to enable it to be seized by the grippers 19 of the carriage 15 (Figure 8).

The gripping layer 43 can be a strip of rubber, plastics, leather or textiles.

A number of grippers 19 are disposed spaced out one beside the other on carriage 15, their spacing being preferably adjustable.

Each gripper 19 has a rigid, preferably lower abutment 46, and a movable, preferably upper pressure member 47 which can be moved by a lifting device 48, for instance, a pressure cylinder, in the direction towards the abutment 46 to clamp the leading edge 10b of the web 10 drawn off a fabric roll 11. The lifting device 48 of each gripper 19 is controlled by the switch 23 for the seizing of the web 10, and by the carriage-side switch 22 for releasing the web 10. The two switches 22, 23 are each connected via an electric cable to a control device of the lifting devices 48. However, a timer is incorporated in the electric connection between the switch 23 and the lifting device 48 for seizing the web 10, so that the pressure member 47 can move into the clamping position only after the pivotable flap 18 has been raised.

The seizing and releasing of the leading edge 10b by the grippers 19 can also be controlled by manually actuated switches disposed, for instance, on the carriage 15.

The abutment 46 and the pressure member 47 are attached, for instance, to supporting arms 49 extending beyond the carriage 15 in the direction of the fabric rollers 11.

Disposed on the supporting plate 12 is a two-armed control lever 51, which can be pivoted around horizontal axis 50 extending in the longitudinal direction of the supporting plate 12, the lever 51 forming part of the control device 21 ensuring that the longitudinal edges of the webs run straight. The upper vertical lever arm 51a of the control lever 51 scans a longitudinal edge of the fabric, and its lower lever arm 51b is mounted for movement between two switches 52, for instance, pressure switches. The lever 51 is biased, by means not shown, anti-clockwise in Figure 7 towards a position in which it would operate the upper switch 52, and is urged against this bias by the longitudinal edge of the fabric. In dependence on the movement of the longitudinal edge of the fabric length 10 from its desired position, one of the two switches 52 is actuated and, if necessary, the magazine 20 is displaced laterally oppositely to such movement of the lateral edge far enough to

enable the fabric length 10 to be drawn off again in a straight line.

To this end the two switches 52 of the control device are connected via electric cables to a drive device 53, for instance, a gear motor. The drive device 53 is mounted beneath the supporting plate 12 on the underframe 13 and actuates, for instance, via a belt drive 69, a screwthreaded spindle 54 which extends parallel with the cutting line 30 and around which a screwthreaded member 55 (nut) of the magazine 20 engages positively. When the screwthreaded spindle 54 is turned in one or the other of the directions of rotation, the screwthreaded member 55 is moved backwards or forwards and entrains the magazine 20.

The two switches 52 of the control device 21 are also connected via electric cables to a switch 28 which is mounted on the transfer device 71 and the pivoting flap 18 and is switched in dependence on the fabric length 10 and retains the two switches 52 in their stand-by position only when a bowed switch member 28a thereof is actuated so that unless the fabric passing over member 28a is under tension as a result of the fabric being drawn from the roll by the carriage, operation of the switches 52 does not cause the drive device 53 to be energised. This arrangement prevents the magazine from being traversed to the limit of its movement in one direction due to the upper switch 52 being closed by the bias applied to the lever 51, in the absence of tension in the fabric.

The magazine 20 is mounted on a travelling frame 56 and comprises two bearing discs 57 mounted on the frame 56 to pivot around the horizontal axis 58 and formed with recesses 59 receiving shafts 60 of individual fabric rolls 11. In each of the recesses 59, formed by a circular opening, in at least one bearing disc 57 there is an annular retaining web 61, preferably made of rubber or plastic, into which the shaft 60 of a fabric roll 11 partially engages by its annular groove 62 and is therefore secured against axial displacement and impeded in its rotary movement.

The bearing discs 57 can be turned mechanically, so that the zone of the disc bearing the required fabric roll 11 can be turned in the direction of the transfer device 71 without manual assistance.

It is within the scope of the invention so to subdivide the width of the transfer device 71 of the pivotable flap 18 that not always the whole pivot flap 18, but only the required portion thereof is moved for differing widths of web; advantageously all zones are so disposed that they can be combined into a rigid pivotable flap 18. The carriage 15 can also have a drive device, for instance,

a gear motor which reciprocates the carriage 15.

The apparatus disclosed hereinbefore operates as follows:

- 5 The fabric roll 11 from which the individual lengths 10 are to be severed is moved into a position adjacent the transfer device 71 and pivotable flap 18 by turning the bearing discs 57 of the magazine 20. Then the
- 10 free end of the material of the roll 11 is laid on the pivotable flap 18 and pulled through beneath the securing rod 45 until its leading edge 10b projects beyond the pivotable flap 18 to be seized by the grippers
- 15 19. The carriage 15 is then moved in the direction of the roll 11, running up on to the movable rail part 32 and therefore actuating the switch 23 which causes the lifting of the pivotable flap 18 into the
- 20 transfer position (Figure 6) and the successive seizing of the leading edge 10b by the grippers 19. The carriage 15 is then moved in the opposite direction, and the web 10, whose leading edge 10b is retained thereby,
- 25 is drawn off the roll 11 in the required length. When the carriage 15 leaves the rail part 32, the switch 23 is released, and the pivotable flap 18 again pivots downwards around its axis 42 and bears via its free end against the hold-down member 17. When
- 30 the switch 22 of the carriage 15 abuts the stop 31 adjusted to the length of web to be severed (Figure 1), the grippers 19 again release the leading edge 10b of the web 10,
- 35 and the drive device 35 receives a pulse and acts on the belt drive 34 to displace the transverse cutting device 16 transversely of the direction of movement of the carriage, so that the web 10 is severed in the cutting
- 40 groove 17a. When the transverse cutting device 16 has performed the cut, it abuts the switch 24 which returns the device 16. The return of the drive device 35 of the transverse cutting device 16 also actuates the
- 45 switch 25, which delivers a pulse to the lifting device 38, so that the hold-down member 17 is raised. The cut end 10a of the web 10 just severed and lying on the supporting plate 12 can then slide down
- 50 from the hold-down member 17. To stop the transverse cutting device 16 at the end of its return movement, its switch 26 abuts a stop 26a with the hold-down member 17 raised.
- 55 When the switch 27 is actuated by the stop 41, the hold-down member 17 is lowered again and clamps the end edge 10a of the web 10 between itself and the bearing plate 12 to prevent it from slipping.
- 60 The carriage 15 can then be moved in the direction of the magazine 20 to draw a fresh length of fabric 10 off the fabric roll 11 and when the carriage 15 runs up on to the movable rail part 32 actuates the switch
- 65 23 to raise the pivotable flap 18 to allow

the grippers 19 to seize the fresh leading edge 10b, whereafter the afore-described operational cycle is repeated.

During these individual movements the upper vertical lever arm 51a of the control device 21 is always scanning the longitudinal edge of the length of fabric 10 and controls its straight running by reciprocating the magazine 20 via the drive device 53 actuated by the switches 52.

The apparatus described can be made to operate semi-automatically, with the carriage moved manually or can be made to operate fully automatically, with the carriage being reciprocated mechanically under the control of switches operated by moving parts of the apparatus.

The apparatus described is simple and safe to operate.

#### WHAT WE CLAIM IS:—

1. An apparatus for drawing off and severing individual lengths of fabric from rolls of fabric, and for laying the individual lengths one on top of the other with their edges aligned, the apparatus comprising an elongate supporting plate, a carriage which can be reciprocated in the longitudinal direction of the supporting plate, a magazine disposed at one end of said supporting plate and mounted on a frame displaceable in a direction parallel with the plane of said supporting plate and perpendicular to said longitudinal direction, said magazine being adapted to support rotatably a plurality of rolls of fabric with their axes extending parallel with the direction in which said frame is displaceable, said carriage being adapted to draw off, from a roll of fabric supported by the magazine, a required length to be severed from the roll, the apparatus including a transverse cutting device, for severing such a length of fabric from such a roll, which cutting device can reciprocate transversely of the direction of movement of the carriage, and a control device which ensures that the longitudinal edges of the webs drawn off by the carriage from fabric rolls supported by the magazine run straight in the longitudinal direction of the supporting plate by sensing movement of the longitudinal edges of the web transverse to the supporting plate and displacing the magazine and said frame in a direction opposite to such movement and parallel with the end of the supporting plate to minimise said movement.

2. Apparatus according to Claim 1, including a hold-down member operable to hold-down on the supporting plate the ends, nearer the magazine, of lengths of fabric which have been drawn off by the carriage from a roll of fabric supported by the magazine and severed by said transverse-cutting device.



3. Apparatus according to Claim 1 or Claim 2, including a transfer device at the end of said support plate adjacent said magazine, adapted to support the leading end of a length of fabric extending from a roll of fabric supported by said magazine, in a position in which said carriage can engage said leading end prior to drawing off a length of fabric from the last-mentioned roll.

4. Apparatus according to any preceding claim, in which the carriage has rollers guided on guide rails disposed along the supporting plate.

5. Apparatus according to Claim 4, in which the carriage has a number of grippers spaced apart transversely of said longitudinal direction to clamp the leading edge of a length of fabric to be drawn off from a roll of fabric supported by the magazine.

6. Apparatus according to Claim 5, in which a stop is adjustably mounted on the supporting plate at a distance from the cutting line of the transverse cutting device, the stop being arranged to co-operate with a switch which is disposed on the carriage and which when operated sets the transverse cutting device in cutting motion and actuates the grippers of the carriage to release the fabric.

7. Apparatus according to Claims 4, 5 and 6 when appendant to Claim 3, in which a further switch is attached to the supporting plate adjacent the cutting line of the transverse cutting and is actuated by a movable part of one said guide rail, when the carriage runs onto said part, to cause the transfer device to move to a position in which said leading edge of the fabric supported thereby can be engaged by said grippers.

8. Apparatus according to Claim 2, or any of Claims 3 to 7 when appendant thereto, in which, the transverse cutting device takes the form of a motor having an output shaft extending in said longitudinal direction and a cutting disc mounted on said output shaft, and the cutting disc extends into a transverse cutting groove in the hold-down member, the cutting device being mounted for transverse sliding movement on the hold-down member and being rectilinearly reciprocable transversely by drive means including a motor disposed below the supporting plate.

9. Apparatus according to Claim 8, in which two switches are mounted in positions, fixed with respect to the supporting plate, adjacent the hold-down member, and are arranged to be actuated, one after the other, by the transverse cutting device, towards the end of the travel of the latter after the cutting device has completed a cut, actuation of said two switches bringing about a return movement of the transverse cutting device and a lifting movement of

the hold-down member and the transverse cutting device.

10. Apparatus according to Claim 2, in which the hold-down member is guided with provision for vertical adjustment, and can be moved up and down by a lifting device controlled by a switch.

11. Apparatus according to Claim 10, in which there is fixed with respect to the hold-down member a vertically adjustable stop, and there is disposed on an under-frame of the supporting plate a switch which can be actuated by the latter stop to limit the upward movement of the hold-down member.

12. Apparatus according to Claim 10 or 11, in which the hold-down member has fixed thereto vertical guides which extend downwards therefrom and are connected below the supporting plate by a transverse beam so that the hold-down member, guides and transverse bar form a rigid frame which is guided for vertical movement with respect to the supporting plate, the drive device for the reciprocation of the transverse cutting device over the cutting line being disposed on the transverse beam.

13. Apparatus according to Claim 7, in which the transfer device is formed by a pivotable flap which can be pivoted around an axis disposed parallel to the cutting line of the transverse cutting device and can be pivoted upwards and downwards via a lifting device, controlled by the movable part of said one guide rail and the associated switch.

14. Apparatus according to Claim 13, in which a gripping layer is attached to a portion of the pivotable flap which adjoins the cutting line, and a securing rod which retains the free web end of a web of fabric extending from a fabric roller supported by the magazine to prevent said free end from slipping back in the direction of the fabric roll and is guided in lateral guide grooves extending at an angle downwards in the direction of the cutting line and bears by its own weight on the gripping layer.

15. Apparatus according to Claim 13 or 14, in which the end of the pivotable flap adjacent the cutting line extends into the path of vertical movement of the hold-down member.

16. Apparatus according to Claim 7, in which the grippers of the carriage each comprise a rigid abutment and a pressure member movable vertically towards and away from the rigid abutment and connected to a lifting device, which is controlled by the switch operated by the movable part of said one guide rail to clamp the leading edge of the web to be drawn off a fabric roller.

17. Apparatus according to any preceding claim, in which the magazine can be

driven by a drive device disposed beneath the supporting plate.

18. Apparatus according to Claim 17, in which the control device ensuring that the longitudinal edges of the web run straight has a two-armed control lever which can be pivoted about an axis extending in the longitudinal direction of the support plate one of the two-arms being a vertical upper lever arm which scans a web longitudinal edge and the other arm being a lower lever arm which is mounted to swing between two switches, connected via electric cables to the drive device reciprocating the magazine, the lower lever arm is opposite extreme positions operating different ones of said switches to cause the latter drive device to move the magazine so as to make sure that the web longitudinal edges run straight.

19. Apparatus according to Claim 17 and 18 when appendant to Claim 13, in which the two switches of the control device are connected via electric cables to a switch part which is disposed on the pivotable flap, extends into the path of movement of a web of fabric drawn by the carriage from a roll of fabric supported by the magazine, said switch part being operable by such a web and being arranged to render said two switches effective to cause operation of said drive device, unless the switch part is operated.

20. Apparatus according to Claim 9, or any claim dependent thereon, in which a stop is mounted on the hold-down member

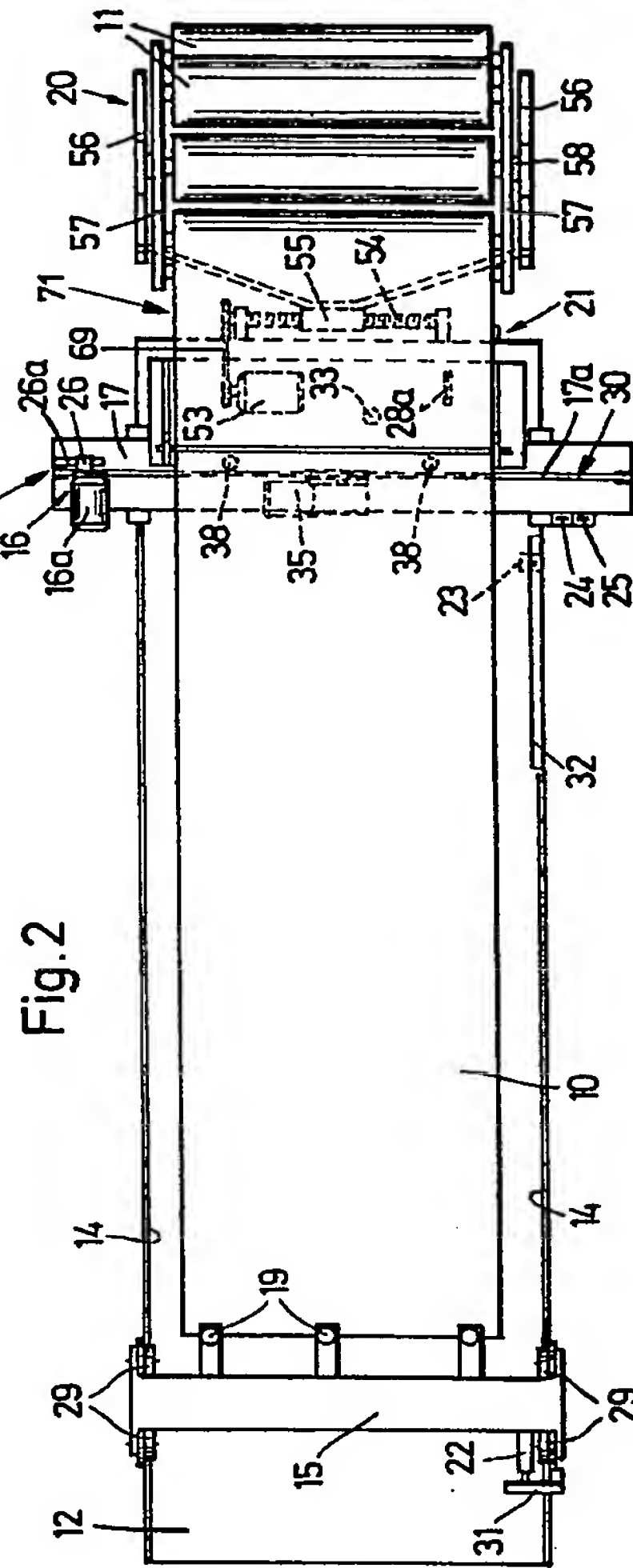
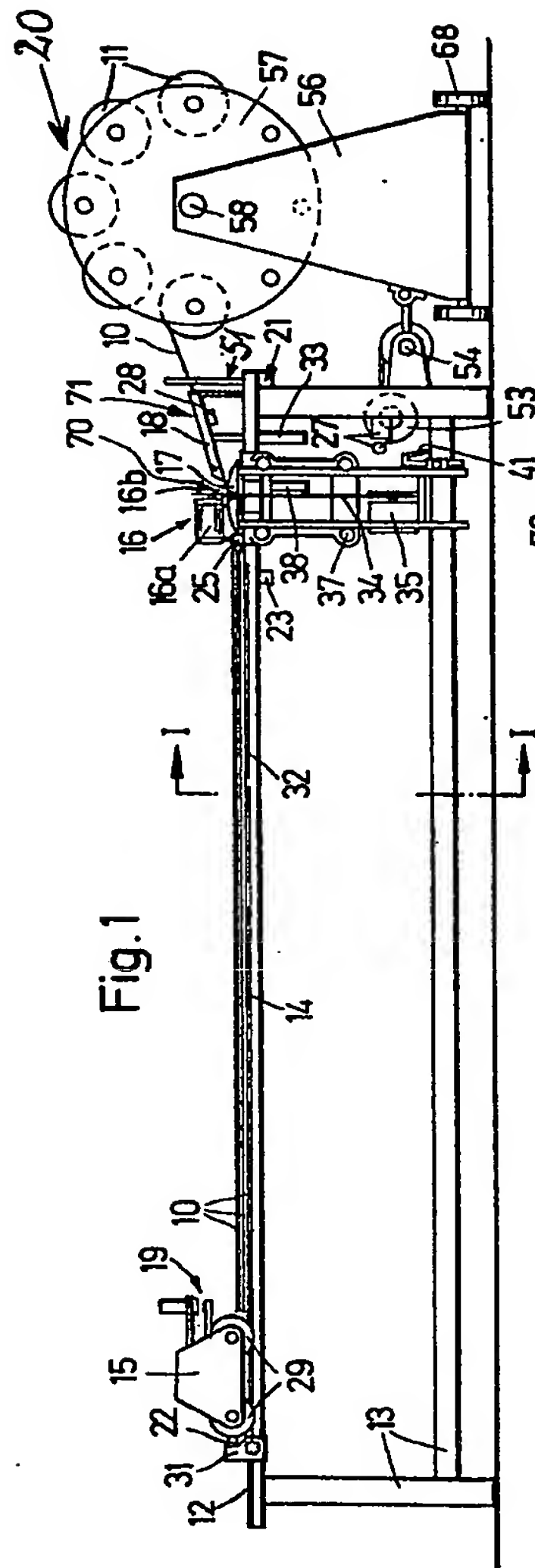
arranged to actuate a switch disposed on the transverse cutting device when the latter device reaches the end of its return movement, and thereby to stop the transverse cutting device.

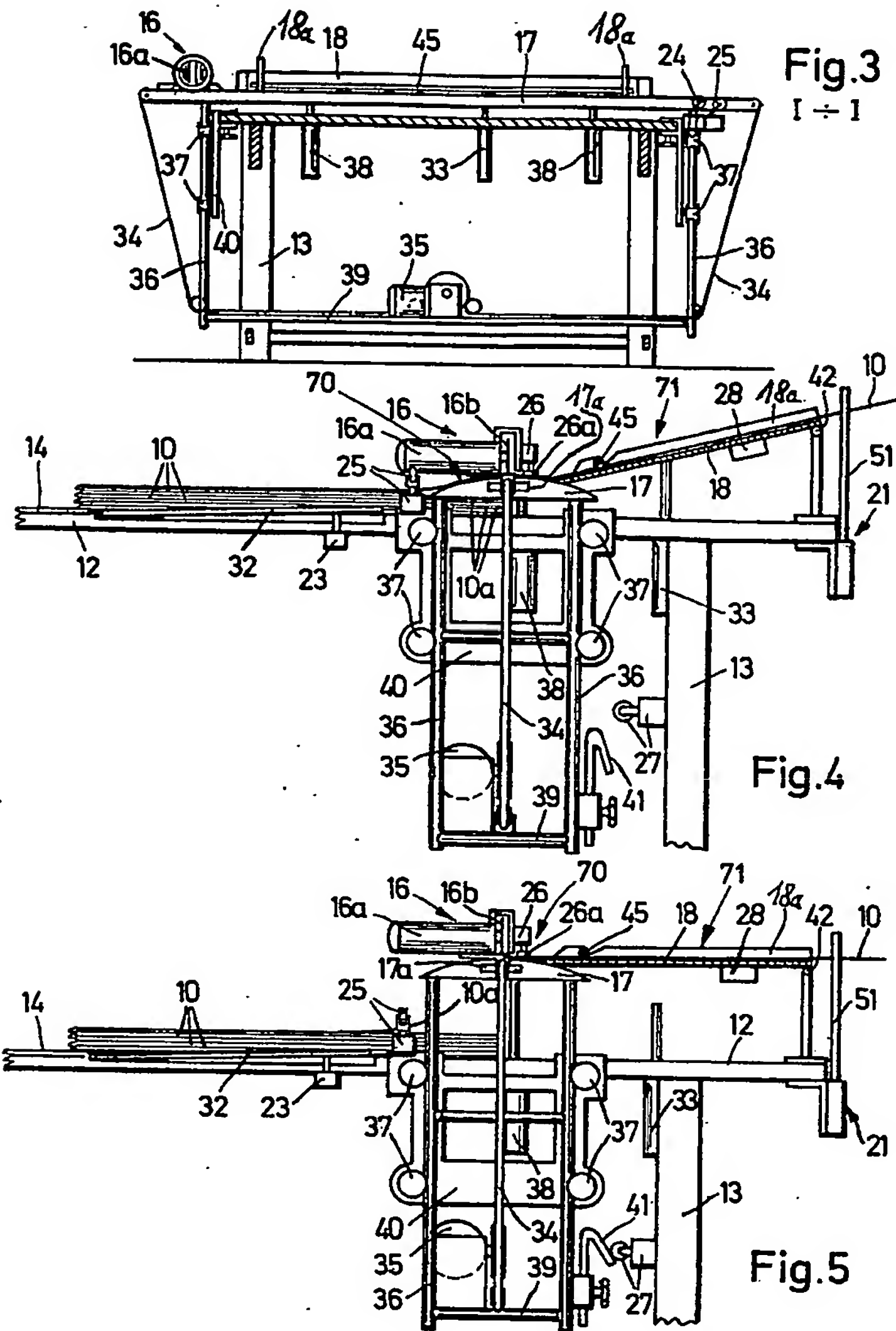
21. Apparatus according to any preceding claim, in which there are disposed in the frame of the magazine two bearing discs which can pivot around a horizontal axis and have a number of recesses for the shafts of fabric rolls, the recesses in at least one bearing disc each having an annular retaining web for the shafts of the fabric rolls, and each said shaft having at least one annular groove adapted to receive said retaining web.

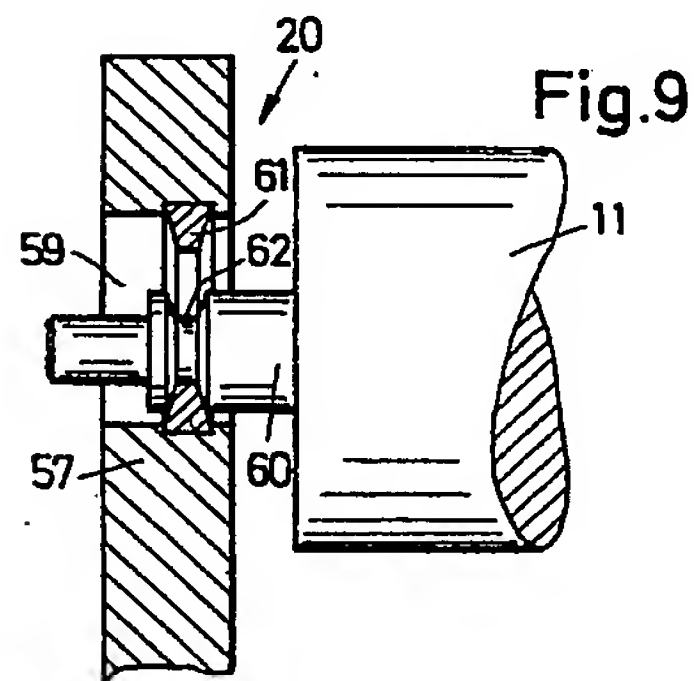
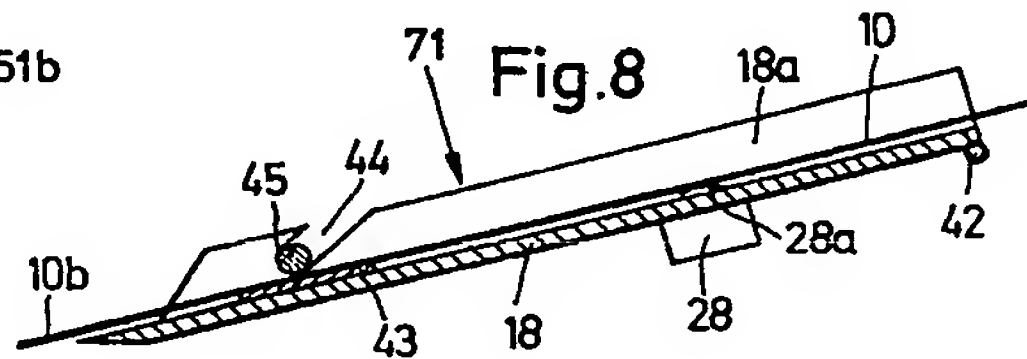
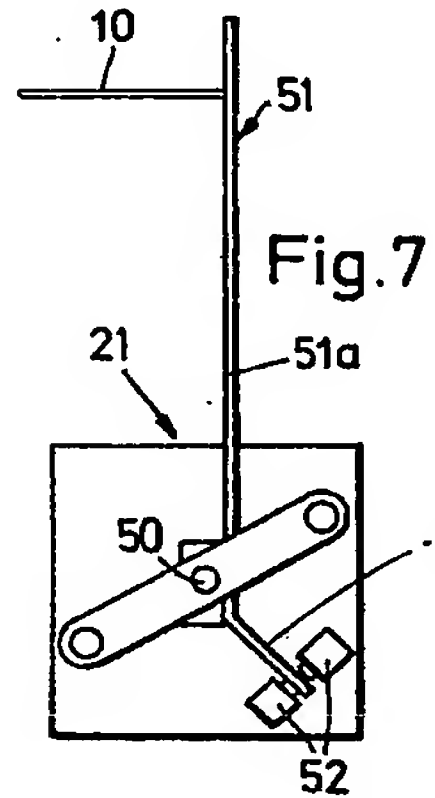
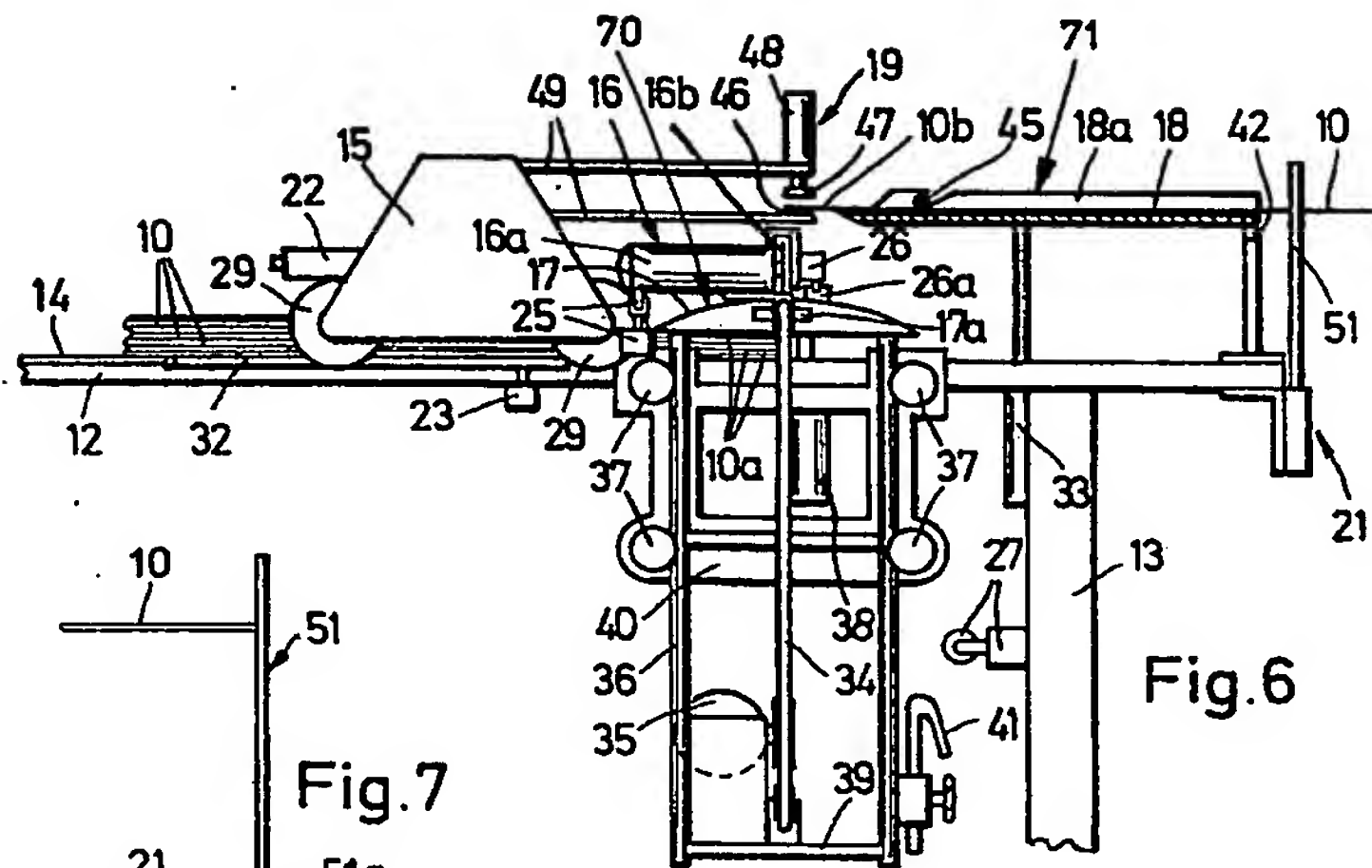
22. Apparatus for drawing off and severing individual lengths from rolls of fabric and laying the individual lengths one on top of another with their edges aligned, substantially as hereinbefore described with reference to and as shown in the accompanying drawings.

FORRESTER, KETLEY & CO.,  
Chartered Agents,  
Forrester House,  
52 Bounds Green Road,  
London, N11 2EY,  
and  
Rutland House,  
148 Edmund Street,  
Birmingham, B3 2LD.  
Agents for the Applicants.











This Page is inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record

## BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☒ COLORED OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REPERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images  
problems checked, please do not report the  
problems to the IFW Image Problem Mailbox**